

REMARKS

No claims been amended in this response. Claims 1-15 remain in the application. No new matter has been added. Reconsideration of the application is respectfully requested.

In the following text, specific references to the present application and the prior art are made using the notation “x:y”, where “x” denotes the page or column number, and “y” indicates the line number, within the document being discussed.

The examiner has rejected claims 1-7 and 9-15 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,017,222 (“Kao”) in view of U.S. Patent Number 6,261,104 (“Leman”). The applicant respectfully traverses. Kao discloses an electrical connector assembly that connects two flex circuits with a main circuit board 30 (1:61 – 1:64). FIG. 3 of Kao indicates that the two flex circuits each have a flat end portion 71 with electrical terminals 712 residing on the ends of the flex circuits (2:56 – 2:60). The flat end portions 71 make contact on either side of a connecting board 40 with the electrical terminals 712 of the flat end portions 71 making contact with a set of conductive members 42 on the connecting board 40 (3:7 – 3:11). The flat end portions 71 and the connecting board 40 are held together in part by two clips 711 (2:50 – 2:53). The connecting board 40 then attaches to the main circuit board 30 by way of a mating portion 43 that connects with a complementary mating section 31 on the main circuit board 30 (3:11 – 3:15).

The examiner identifies the mating portion 43 as being equivalent to the termination circuit recited in claim 1 of the present application. However, as stated in previous responses, mating portion 43 is nothing more than a standard printed circuit board connector, as shown in FIGS. 3, 4, and 7 of Kao. Also, Kao states that “[t]he mating portion 43 is a receptacle connector...”; thus, a portion of a connector is being disclosed, not a termination circuit. That structure is not equivalent to the termination circuit 210 of the present invention, as shown in FIG. 4 of the application, and as recited in claim 1. As mentioned above, such termination circuits are commonly utilized to mitigate deleterious transmission line effects, such as signal reflections, in signal lines (1:18 – 1:20). The specific embodiment shown in the specification, for example, employs a parallel resistor-capacitor configuration for each signal line (4:21 – 4:24). Kao makes no reference to nor infers any such circuits. As a result, **Kao does not disclose a termination circuit at all** as cited in the present

application, much less one that is “mounted substantially at the proximate end of the electrical circuit substrate.” (Claim 1)

Assuming, instead, that the RC circuit referred to in Leman is meant to disclose the termination circuit of the present invention, that RC circuit does not anticipate the termination circuit of the application, either. Leman discloses a “termination circuit, for example, an RC circuit mounted to a printed circuit board that connects to the upper riser connector 32b of the upper riser card 30b...” (5:38 – 5:41). While such termination circuits are well known for their use on printed circuit boards in “prevent[ing] signal reflections” (5:44), Leman discloses nothing more than that. Leman certainly does not disclose “a termination circuit mounted substantially at the proximate end of the electrical circuit substrate.” (Claim 1) In fact, Leman does not specifically disclose the location of the RC circuit, other than to say it is “mounted to a printed circuit board” (5:39 – 5:40).

Apparently, the examiner is attempting to equate the electrical termination circuit disclosed in Leman with the mating portion 43 of Kao, which is a part of a physical connection mechanism, as stated above, not a termination circuit. The examiner seems to be using the Leman RC circuit to address the signal reflection issue, and the connector structure of Kao to address the location of the termination circuit of the present invention at the proximate end of the electrical circuit substrate, by calling both structures “termination circuits.” However, these two structures simply cannot be equated; they don’t represent the same structure, and they don’t perform the same function. One is a connector, the other is a termination circuit, and one is nothing like the other.

Furthermore, the fact that the termination circuit of the current application is “mounted substantially at the proximate end of the electrical circuit substrate” is allowed precisely because **the electrical circuit substrate has no connector at the proximate end.** Instead, the electrical circuit substrate is “coupled via solder to the target circuit board” (claim 1). Locating the termination circuit at the proximate end in the place where a connector would normally reside allows better signal reflection characteristics than are possible when a connector is being used to connect the two boards (5:15 – 5:27). Oppositely, the mating portion 43 of Kao will not allow the positioning of a termination circuit near the point where the connector board 40 and the main circuit board 30 meet. In other words, **Kao teaches away from using a termination circuit that is “mounted substantially at the proximate end of the electrical circuit substrate.”**

Continuing with claim 1, the examiner also indicates that, in reference to Kao, “the electrical circuit substrate (40) [is] substantially perpendicular to the target circuit board (30)” (Page 2 of Paper No. 10). The applicant respectfully traverses. FIG. 7 indicates that when the mating portion 43 is plugged onto the complementary mating portion 31, the connector board 40 will be parallel to, not perpendicular to, the main circuit board 30. The mating portion 43 will not plug onto the complementary mating portion 31 any other way. As claim 1 requires that “electrical circuit substrate [be] substantially perpendicular to the target circuit board,” the applicant believes that claim 1 is, again, allowable, as Kao does not disclose that limitation.

As a result, based on the arguments above, the applicant believes that claim 1 is not anticipated nor made obvious by Kao in view of Leman. Therefore, the applicant believes that claim 1 is allowable.

Additionally, since dependent claims 2-15 all depend from independent claim 1, and the applicant believes that claim 1 is allowable, the applicant believes that claims 2-15 are also allowable, as each incorporates the termination circuit element as recited in claim 1.

Also, concerning claims 3 and 12, the examiner states that “Kao discloses a guide pin (711) connected to the rigid circuit board (40), the guide pin (711) protruding through a corresponding alignment hole in the target circuit board (30)” (Pages 3 and 4 of Paper No. 10). The applicant respectfully traverses. As stated above, Kao refers to clips 711, which are “bent to form an inverted U-shaped configuration that has first and second leg portions 715, 716” (2:62 – 2:63). At no time do these clips protrude through holes in the main circuit board 30. In fact, Kao never mentions any holes in the main circuit board 30. Thus, again, claims 3 and 12 should be allowable.

Concerning claims 4, 5, 13, and 14, the examiner states that “Kao discloses the termination circuit (43) comprising at least two stacked passive electrical surface-mount components” and “an active electrical component” (Page 3 of Paper No. 10). The application respectfully traverses. Kao makes no mention of stacked passive or active components. As a result, again, claims 4, 5, 13, and 14 should be allowable.

Similarly, regarding claim 7, the examiner states that “Kao discloses the electrical signal wire (7) being a coaxial signal wire having a shield electrically coupled to the rigid circuit board (40)” (Page 4 of Paper No. 10). The applicant respectfully traverses. Kao does not disclose any kind of coaxial signal wire. Thus, again, claim 7 is allowable.

Concerning claim 9, the examiner states that "Kao discloses the electrical circuit substrate (40) being a flex circuit (40)" (Page 4 of Paper No. 10). The applicant respectfully traverses. Kao indicates that "the connector board 40 is sandwiched and clamped between the flat end portions 71 of the first and second flexible connecting strips 7." (3:5 - 3:7) As a result, the flexible connecting strips are separate from the connector board 40. Nowhere in Kao is it stated that connector board 40 may be a flex circuit. As a result, again, claim 9 is allowable.

With respect to claim 10, the examiner state that "Kao discloses a rigid board attached alongside the flex circuit (40) at the proximate end opposite the side of the flex circuit (40) where the termination circuit (43) is mounted" (Page 4 of Paper No. 10). The applicant respectfully traverses. As state previously, Kao discloses neither the flex circuit nor the termination circuit, as recited in the claim. Thus, claim 10 should be allowable.

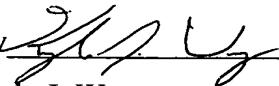
Regarding claim 11, the examiner states that "Kao discloses a socket (43) connected to the flex circuit (40), the socket (43) being capable of receiving a mating plug (31) to which the electrical signal wire (7) is connected" (Page 4 of Paper No. 10). The applicant respectfully traverses. According to FIG. 3 of Kao, the connector board 40 (a rigid board, not a flex circuit), is connected to mating portion 43. Also, the examiner is using the mating portion 43 of Kao as both a termination circuit and a socket of the present invention. Thus, again, claim 11 is allowable.

Concerning claim 15, the examiner states that "Kao discloses the flex circuit (40) being a rigidized flex circuit (40)" (Page 5 of Paper No. 10). The applicant respectfully traverses. Nowhere in Kao is a rigidized flex circuit mentioned, as disclosed in the present application (6:23 - 6:29). Thus, again, claim 15 is allowable

The examiner has also rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Kao in view of Leman. The applicant respectfully traverses. As stated above, since no combination of Kao and Leman disclose "a termination circuit mounted substantially at the proximate end of the electrical circuit substrate" (claim 1), and claim 8 incorporates this limitation, the applicant believes that claim 8 is allowable.

As a result of the previous discussion, it is believed that claims 1-15 comply with the provisions of 35 U.S.C. 102 and 103. Reconsideration and favorable action are respectfully requested.

Respectfully submitted,

by 

Kyle J. Way

Reg. # 45,549

March 31, 2003

(970) 679-3238

Agilent Technologies, Inc.

815 14th St. S.W., MS DL432

Loveland, CO 80537